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MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of January 1, 1984

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
SNOW SURVEY UNIT
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Streamflow variable

Based on present conditions, runoff west of the Divide is expected to be below average on all streams. East of the Divide, spring and summer streamflows are expected to be near average from most drainages. Exceptions are those streams that flow into the Missouri River from the west downstream from Canyon Ferry Reservoir. Below average runoff is expected for this area.

Forecasts are issued only on larger rivers this month.

Forecasts will be issued for all streams starting next month.

The Montana Water Supply Outlook is a publication of the U.S. Soil Conservation Service. The SCS administers the Cooperative Snow Survey Program in cooperation with other federal, state and private agencies, organizations, and individuals.

The report is prepared by SCS, Snow Survey and Water Supply Forecast Staff, Room 443, Federal Building, 10 East Babcock, Bozeman, Montana.



Map of snow survey sites

A map of Montana Snow Survey Sites is included in this Water Supply Outlook Report. Please keep this copy, because future issues this season will not include a map.

A few extra copies are available from the Snow Survey Office. Maps showing only SNOTEL sites are also available. If needed, additional copies may be requested.

Snowpack mostly below average

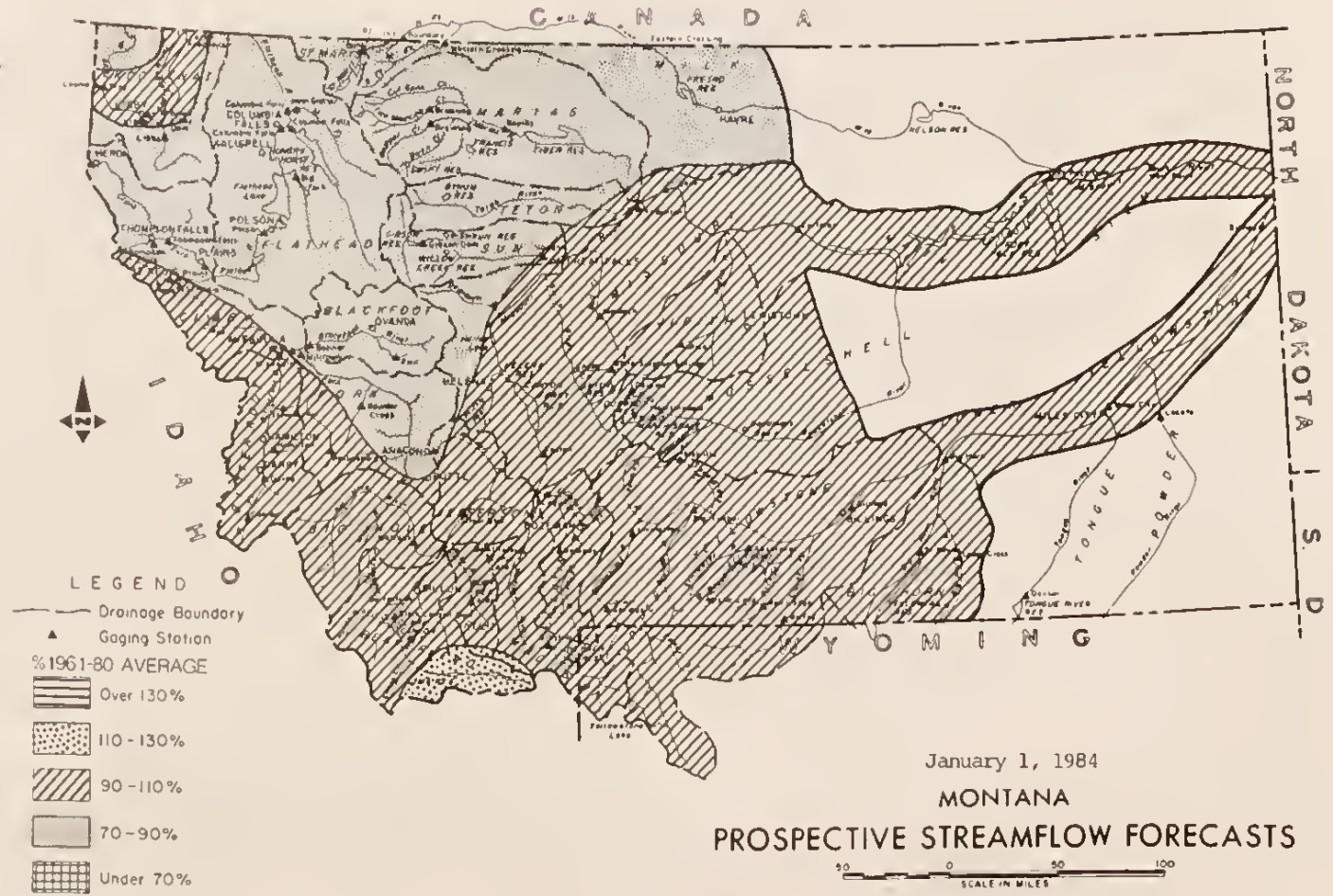
The mountains in the southern part of the State received good moisture in September while northern areas were somewhat drier. Most mountainous areas had below average snowfall during October and November. Typically, higher elevations begin to accumulate snow in late September or early October but this year the start of snow buildup was delayed until late November. December was a good snowfall month in southern areas and somewhat less in northwest drainages. Late December brought extremely cold temperatures to all of Montana.

On January 1, the mountain snowpack was well below average in northwest drainages encompassing the headwaters of the Kootenai, Flathead, St. Mary's, Marias, Teton and Sun River systems. The remainder of the Columbia River drainage in Montana has below average water stored in the snowpack. The snowpack increases to average or above in the more southern drainages with above average snowpack in the Red Rock and Ruby River headwaters, and portions of the Madison and Gallatin River drainages. The Crazy Mountains and parts of the Big Belt Mountains also have above average snowpack. Most headwater areas of the Yellowstone River and its tributaries have near average snowpack for this date.

This year's snowpack is similar to last season except for better snow in smaller mountain ranges in Central Montana. Another similarity to last season is that heavy snowpacks are building in states south of Montana.

Soils under the snowpack are generally wetter than normal in southern drainages and average to drier than normal in northern drainages.

ALL AVERAGES IN THIS PUBLICATION
ARE BASED ON THE 20-YEAR PERIOD,
1961-1980.



January 1, 1984
MONTANA
PROSPECTIVE STREAMFLOW FORECASTS
SCALE IN MILES

Missouri River & Hudson Bay Drainages

STREAMFLOW FORECASTS

RIVER BASIN and/or FORECAST POINT	THIS YEAR				PAST RECORD			
	FORECAST		THIS YEAR		FORECAST		THOUSAND ACRES FEET	
	THOUSAND CFS	PERCENT OF AVERAGE	THOUSAND CFS	PERCENT OF AVERAGE	THOUSAND CFS	PERCENT OF AVERAGE	LAST YEAR	AVERAGE
PERCENT	April - September				April - July			
BIG HOLE RIVER near Melrose	750	99	760	695	100	698		
MADISON RIVER near McAllister (4)	890	105	947	848	107	749	672	
GALLATIN RIVER near Gateway	555	102	534	545	103	451	464	
MISSOURI RIVER at Toston (7)	2663	105	2885	2,545	2300	105	2385	2,196
SUN RIVER at Gibson Dam (8)			349	570			304	522
MISSOURI RIVER at Fort Benton (9)	4023	101	3,980	3500	101	3,468		
MARIAS RIVER near Shelby	405	75	247	542	380	73	232	518
MISSOURI RIVER at Virgelle (11)	4573	100	4,570	4030	100	4,030		
MISSOURI RIVER near Landusky (11)	4980	100	4,980	4380	100	4,383		
MISSOURI RIVER below Fort Peck Dam (11)	4960	100	4,961	4426	100	4,428		
INFLOW LAKE SAKAKAWEA, ND (11)	13000	102	12,755	11850	102	12,239		

- (1) Adjusted for storage in Lima Reservoir.
- (2) Adjusted for storage in Lima and Clark Canyon Reservoirs.
- (3) Adjusted for storage in Hebgen Lake.
- (4) Adjusted for storage in Hebgen Lake and Ennis Lake.
- (5) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above the Reservoir.
- (6) Adjusted for storage in Middle Creek Reservoir.
- (7) Adjusted for storage in Lima, Hebgen, Ennis & Clark Canyon Reservoirs.
- (8) Adjusted for storage in Gibson Reservoir & diversions.

- (9) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gibson, Pishkun, Willow Creek & Canyon Ferry Reservoirs.
- (10) Adjusted for storage in Two Medicine Reservoir & diversions in Two Medicine Canal.
- (11) Adjusted for all upstream reservoirs.
- (12) Flow at Eastern Crossing minus St. Mary's Canal.
- (13) Adjusted for storage in Lake Sherburne.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUBWATERSHED	Number of Gauges Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Beaverhead	16	83	118
Ruby	5	101	118
Big Hole	15	77	87
Boulder	12	56	68
Jefferson	48	79	99
Madison	23	87	111
Gallatin	16	100	101
Missouri Headwater	87	85	103
West-side Missouri (Toston-Cascade)	9	62	67
Smith-Belt-Arrow	7	111	92
Missouri Main-stem	16	86	81
Teton & Sun	5	83	57
Marias	3	65	55
Marias-Teton-Sun	8	73	56
Judith-Musselshell	10	108	92
Milk	10	73	64
Bear Paws	6	157	102
Missouri (Total)	121	86	96

Saskatchewan

St. Mary's	5	60	57
Bow River in Alberta	--	--	--

Yellowstone River Drainage

STREAMFLOW FORECASTS

RIVER BASIN and/or FORECAST POINT	THIS YEAR				PAST RECORD			
	FORECAST		THIS YEAR		FORECAST		THOUSAND ACRES FEET	
	THOUSAND CFS	PERCENT OF AVERAGE	THOUSAND CFS	PERCENT OF AVERAGE	THOUSAND CFS	PERCENT OF AVERAGE	LAST YEAR	AVERAGE
PERCENT	April - September				April - July			
YELLOWSTONE RIVER at Corwin Springs	2165	107	1725	2,027	1820	108	1397	1,686
YELLOWSTONE RIVER near Livingston	2550	107	2,379	2125	108	1,969		
CLARKS FORK RIVER near Belfry	645	103	628	570	101	563		
YELLOWSTONE RIVER at Billings	4666	104	3133	4,516	4000	104	3793	3,833
BIGHORN RIVER near St. Xavier (3)	2109	107	2060	1,976	1920	107	1849	1,794
YELLOWSTONE RIVER at Miles City (4)	7070	104	6,787	6150	104	5,906		
YELLOWSTONE RIVER near Sidney (5)	7802	104	7,518	6800	104	6,544		

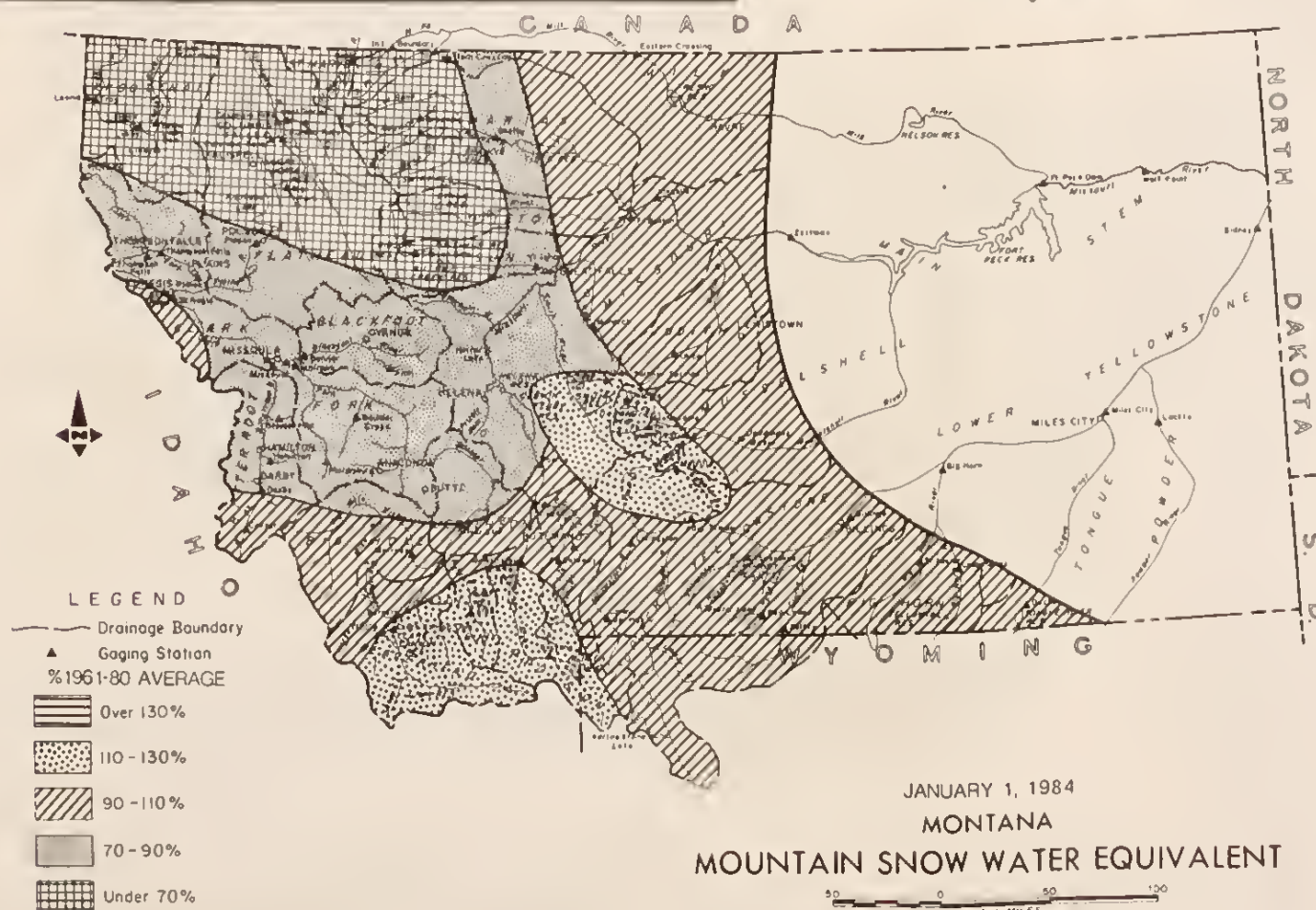
- (1) Adjusted for storage in Mystic Lake.
- (2) Adjusted for storage in Cooney Reservoir.
- (3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.
- (4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
- (5) Adjusted for reservoirs shown in (4) and diversions into the Lower Yellowstone Canal.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

SUMMARY of SNOW MEASUREMENTS

(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUBWATERSHED	Number of Gauges Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
Upper Yellowstone ab Livingston	13	121	96
Shields	6	119	103
Boulder & Stillwater	3	111	90
Rock Creek & Clark's Fork	12	116	93
Yellowstone (ab Yellowstone River)	34	118	95
Bighorn/Wyoming	6	105	108
Little Bighorn	--	--	--
Bighorn (Total)	--	--	--
Tongue	--	--	--
Powder	--	--	--
Yellowstone (Total)	40	116	97



SNOW SURVEY DATA

SNOW January 1984						
DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
					Last Year	Average
ARCH FALLS	7350	K/27	25	5.3	5.0	5.7
ASHLEY DIVIDE	4820	K/27	18	2.2	3.4	3.3
ASHLEY LAKE	4000	K/27	16	1.6	2.6	2.7
BADGER PASS PILLOW	6900	1/01	SP	6.8	8.1	13.3
BANFIELD MOUNTAIN	5600	K/28	25	5.2	10.0	11.1
BANFIELD MOUNTAIN PILLOW	5600	1/01	SP	5.2	9.8	8.5
BARKER LAKES PILLOW	8250	1/01	SP	5.3	11.8	8.1
BASIN CREEK	7180	K/29	16	3.0	6.6	3.8
BASIN CREEK PILLOW	7180	1/01	SP	2.0	4.8	2.7
BEAGLE SPRINGS PILLOW	8850	1/01	SP	4.0	3.6	3.2
BEAR PAW SKI AREA	5200	K/26	14	1.8	1.8	3.2
BIG SKY	7700	1/03	34	8.7	7.9	6.8
BLACK BEAR	7950	K/27	64	19.0	25.3	16.3
BLACK BEAR PILLOW	7950	1/01	SP	18.4	20.8	15.5
BLACK PINE	7100	K/28	19	3.6	4.1	4.9
BLACK PINE PILLOW	7100	1/01	SP	4.2	4.8	6.0
BLOODY DICK	7600	K/27	22	5.2	-	-
BLOODY DICK PILLOW	7550	1/01	SP	3.7	5.4	5.8
BOULDER MOUNTAIN	7950	K/27	36	8.4	-	-
BOULDER MOUNTAIN PILLOW	7950	1/01	SP	10.8	9.6	10.8
BOX CANYON PILLOW	6700	1/01	SP	3.4	3.5	3.9
BRIDGER BOWL	7250	K/29	41	11.8	9.0	11.6
BRIDGER BOWL PILLOW	7250	K/29	SP	10.0	8.5	11.3
CALVERT CREEK	6430	K/28	21	4.2	-	-
CALVERT CREEK PILLOW	6430	1/01	SP	3.5	3.6	4.6
CARROT BASIN	9000	K/29	58	17.6	19.4	16.2
CARROT BASIN PILLOW	9000	1/01	SP	15.3	15.9	12.6
CASHE CREEK PILLOW	7800	1/01	SP	3.8	2.7	-
CHESSMAN RESERVOIR	6200	K/29	10	1.5	3.2	1.5
CLOVER MEADOW PILLOW	8800	1/01	SP	10.5	7.0	8.0
COLE CREEK	7850	K/29	29	7.0	9.7	9.0
COLE CREEK PILLOW	7850	1/01	SP	6.6	10.7	7.4
COMBINATION	5600	K/28	14	1.9	3.0	2.4
COMBINATION PILLOW	5600	1/01	SP	2.6	3.4	2.4
COPPER BOTTOM	5200	K/20	18	3.2	3.3	-
COPPER BOTTOM PILLOW	5200	1/01	SP	5.6	5.1	5.8
COPPER CAMP	6950	K/20	31	7.8	10.0	-
COPPER CAMP PILLOW	6950	1/01	SP	8.1	10.4	16.9
COPPER CREEK	5700	K/20	21	4.5	5.0	-
COPPER LAKE CREEK	6100	K/20	29	6.7	7.5	-
COYOTE HILL	4200	K/28	20	3.0	4.0	4.5
CRYSTAL LAKE PILLOW	6050	1/01	SP	5.1	6.0	5.7
DAISY PEAK	7600	1/03	21	4.2	4.8	5.3
DALY CREEK PILLOW	5780	1/01	SP	4.0	6.0	5.5
DARKHORSE LAKE PILLOW	8700	1/01	SP	13.3	8.9	9.9
DEADMAN CREEK	6450	K/29	23	4.6	3.5	5.1
DEADMAN CREEK PILLOW	6450	1/01	SP	4.3	3.5	5.2
DESERT MOUNTAIN	5600	K/28	23	4.6	8.1	6.9
DEVILS SLIDE	8100	K/27	39	9.6	10.0	10.5
DISCOVERY BASIN	7050	K/27	19	3.4	4.0	4.7
DIVIDE PILLOW	7800	1/01	SP	6.0	6.8	4.4

SNOW January 1984						
DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
					Last Year	Average
DIX HILL	6400	K/30	21	4.4	6.2	5.1
EMERY CREEK	4350	K/28	28	4.8	10.8	6.3
EMERY CREEK PILLOW	4350	1/01	SP	4.9	7.6	6.9
FISH CREEK	8000	K/28	17	3.2	7.7	4.3
FISHER CREEK PILLOW	9100	1/01	SP	16.0	13.0	16.1
FLATTOP MOUNTAIN PILLOW	6300	1/01	SP	13.7	20.5	21.6
FLEECER RIDGE	7500	1/03	19	4.0	4.8	4.8
FOURTH OF JULY	3450	K/30	21	3.1	4.3	4.4
FRIODAY HILL	4620	K/30	30	6.7	9.2	11.0
FROHNER MEADOWS	6480	K/29	15	2.6	5.0	3.7
FROHNER MEADOWS PILLOW	6480	1/01	SP	3.0	5.0	3.4
GARVER CREEK	4250	K/28	18	3.8	5.5	5.6
GARVER CREEK PILLOW	4250	1/01	SP	2.7	5.6	5.0
GIBBONS PASS	7100	K/27	35	8.9	10.6	9.4
GRAVE CREEK	4300	K/28	24	5.2	7.3	7.7
GRAVE CREEK PILLOW	4300	1/01	SP	5.4	9.6	8.1
HAND CREEK	5030	K/28	22	4.0	4.7	5.6
HAND CREEK PILLOW	5030	1/01	SP	3.4	4.9	7.0
HAWKINS LAKE	6450	K/28	34	8.9	14.5	15.5
HAWKINS LAKE PILLOW	6450	1/01	SP	7.6	12.5	13.6
HEART LAKE TRAIL	4800	1/02	35	8.6	7.6	8.5
HEBGEN DAM	6550	K/29	26	6.0	7.4	5.0
HELL ROARING OVIDE	5770	K/29	39	10.0	13.0	14.1
HOOD MEADOW	6600	K/27	22	4.6	4.3	5.3
HOODOO BASIN	6050	1/02	62	18.1	21.2	20.1
HOODOO BASIN PILLOW	6050	1/01	SP	14.2	18.0	18.6
HOODOO CREEK	5900	1/02	58	17.3	18.8	17.8
JOHNSON PARK	6450	1/03	18	3.5	2.6	3.3
KINGS HILL	7500	K/29	24	5.0	4.5	6.7
KIWANIS CAMP	3720	K/26	13	1.6	.6	1.1
KRAFT CREEK PILLOW	4750	1/01	SP	6.2	6.7	-
LAKE CREEK	6100	K/28	23	5.2	5.4	4.0
LAKEVIEW CANYON	6930	K/27	21	5.1	9.8	5.4
LAKEVIEW RIDGE	7400	K/27	21	5.1	9.2	4.8
LAKEVIEW RIDGE PILLOW	7400	1/01	SP	6.8	10.3	5.0
LEMHI RIDGE	8100	K/27	24	5.0	-	-
LEMHI RIDGE PILLOW	8100	1/01	SP	3.4	4.2	4.8
LICK CREEK	6860	K/27	22	3.6	5.3	4.2
LICK CREEK PILLOW	6860	1/01	SP	3.9	4.1	3.9
LONE MOUNTAIN	8880	1/03	44	11.3	10.9	10.0
LOST HORSE	5940	K/29	39	9.6	10.4	13.3
LOWER TWIN PILLOW	7900	1/01	SP	9.8	12.7	10.3
LUBRECHT FLUME	4680	K/29	13	2.0	3.6	2.8
LUBRECHT FLUME PILLOW	4680	1/01	SP	2.9	3.7	2.1
LUBRECHT FOREST # 3	5450	K/30	16	2.7	3.2	2.8
LUBRECHT FOREST # 4	4650	K/30	12	1.7	1.6	1.7
LUBRECHT FOREST # 6	4040	1/02	13	2.0	2.0	1.9
LUBRECHT HYDROPLAT	4200	K/29	15	2.2	2.4	3.0
MADISON PLATEAU	7750	K/27	41	10.0	14.5	9.5
MADISON PLATEAU PILLOW	7750	K/27	SP	10.0	12.9	10.0
MANY GLACIER	4900	K/29	25	4.9	8.6	9.8
MANY GLACIER PILLOW	4900	1/01	SP	4.7	8.1	9.2
MARIAS PASS	5250	K/31	24	4.6	7.8	6.9
MAYNARD CREEK	6210	K/29	28	6.7	5.7	6.4
MAYNARD CREEK PILLOW	6210	K/29	SP	5.1	4.5	5.5
MONUMENT PEAK PILLOW	8850	1/01	SP	8.9	7.8	9.6
MOULTON RESERVOIR	6850	K/29	18	2.2	3.0	3.1
MOUNT LOCKHART	6400	K/31	25	5.4	7.4	9.0
MOUNT LOCKHART PILLOW	6400	1/01	SP	5.3	7.3	9.1
MULE CREEK PILLOW	8350	1/01	SP	5.5	5.0	7.7
NEVADA CREEK PILLOW	6480	1/01	SP	4.3	5.0	6.8
NEWTON MOUNTAIN	5600	K/27	44	11.0	16.3	17.1

SNOW January 1984						
DRAINAGE BASIN and/or SNOW COURSE		THIS YEAR			PAST RECORD	
NAME	Elevation	Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
					Last Year	Average
NEZ PERCE CAMP	5650	K/26	24	5.5	-	-
NEZ PERCE CAMP PILLOW	5650	1/01	SP	5.9	5.9	6.4
NOISY BASIN	6040	K/28	72	18.0	25.3	17.8
NOISY BASIN PILLOW	6040	1/01	SP	17.2	19.3	15.9
NORTH FK. ELK CREEK	6250	K/30	21	4.5	5.3	5.4
NORTH FK. ELK CREEK PILLOW	6250	1/01	SP	4.1	5.4	4.7
NORTHEAST ENTRANCE	7350	1/03	22	4.3	2.8	4.0
NORTHEAST ENTRANCE PILLOW	7350	1/01	SP	3.8	3.3	4.4
OPHIR PARK	7150	K/30	26	5.6	7.6	7.5
PETERSON MEADOWS	7200	K/27	18	3.1	4.6	4.4
PETERSON MEADOWS PILLOW	7200	K/27	SP	3.6	5.0	4.8
PICKFOOT CREEK	6650	K/27	25	5.5	-	-
PICKFOOT CREEK PILLOW	6650	1/01	SP	5.9	5.6	4.3
PIKE CREEK	5930	K/27	32	6.6	11.0	-
PIKE CREEK PILLOW	5930	1/01	SP	6.7	11.9	12.5
PIPESTONE PASS	7200	K/28	9	1.0	2.9	2.3
PLACER BASIN PILLOW	8830	1/01	SP	8.0	6.9	9.0
POORMAN CREEK	5100	K/28	44	10.8	14.5	15.7
POORMAN CREEK PILLOW	5100	1/01	SP	10.3	12.6	12.4
PORCUPINE	6500	K/30	17	3.9	-	-
PORCUPINE PILLOW	6500	1/01	SP	3.4	3.4	2.9
RED TOP	5260	K/27	37	9.1	12.7	13.7
ROCKER PEAK	8000	K/28	22	3.7	5.8	6.9
ROCKER PEAK PILLOW	8000	1/01	SP	3.4	6.6	6.9
ROCKY BOY	4700	K/26	13	1.5	1.2	1.9
ROCKY BOY PILLOW	4700	K/26	SP	1.8	1.8	1.9
SADDLE MOUNTAIN	7940	K/27	37	9.5	11.2	10.7
SADDLE MOUNTAIN PILLOW	7900	1/01	SP	10.8	11.3	11.5
SHOWER FALLS	8100	K/27	41	10.2	10.6	11.1
SHOWER FALLS PILLOW	8100	1/01	SP	11.1	10.8	10.8
SILVER RUN	6630	K/29	12	2.4	1.9	2.4
SILVER RUN PILLOW	6630	1/01	SP	2.4	1.7	1.5
SKALKAHO SUMMIT	7250	K/27	31	6.9	8.0	11.8
SKALKAHO SUMMIT PILLOW	7250	1/01	SP	7.4	8.1	12.3
SKYLARK TRAIL PILLOW	6200	1/01	SP	10.1	10.5	-
SOUTH FORK SHIELDS	8100	K/30	43	12.2	11.4	-
SOUTH FORK SHIELDS PILLOW	8100	1/01	SP	9.0	7.4	6.8
SPUR PARK	8100	K/29	34	8.2	7.6	9.6
SPUR PARK PILLOW	8100	1/01	SP	9.2	8.6	10.4
STAHL PEAK	6030	K/28	51	14.6	14.8	19.7
STAHL PEAK PILLOW	6030	1/01	SP	12.6	14.6	17.2
STORM LAKE	7780	K/27	24	5.0	8.2	5.6
SUCKER CREEK	3960	K/26	13	1.8	.4	0.4
TAYLOR ROAD	4080	K/26	16	2.2	1.0	1.9
TEN MILE LOWER	6600	K/28	17	2.6	4.2	3.1
TEN MILE MIDDLE	6800	K/28	20	3.5	5.1	4.7
TEN MILE UPPER	8000	K/28	23	4.4	6.4	5.7
TEPEE CREEK	8000	K/28	32	8.4	8.0	7.3
TEPEE CREEK PILLOW	8000	1/01	SP	7.7	7.4	5.9
TRUMAN CREEK	4060	K/27	16	1.8	2.0	1.6
TWELVMILE CREEK	5600	K/29	32	7.1	7.9	8.5
TWELVMILE CREEK PILLOW	5600	1/01	SP	6.6	6.0	7.3
TWENTY-ONE MILE	7150	K/31	35	6.8	9.6	7.7
TWIN LAKES	6510	K/29	45	11.8	13.2	17.2

SNOW January 1984		THIS YEAR			PAST RECORD	
DRAINAGE BASIN and/or SNOW COURSE		Date of Survey	Snow Depth (Inches)	Water Content (Inches)	Water Content (Inches)	
NAME	Elevation				Last Year	Average
TWIN LAKES PILLOW	6400	1/01	SP	13.8	13.1	17.2
WALDRON	5600	K/31	15	2.8	3.2	3.9
WALDRON PILLOW	5600	1/01	SP	2.6	3.9	4.7
WARM SPRINGS	7800	1/03	31	7.4	6.8	10.6
WARM SPRINGS PILLOW	7800	1/01	SP	8.6	8.3	11.6
WEASEL DIVIDE	5450	K/28	38	9.9	15.5	16.9
WEST YELLOWSTONE	6700	K/31	28	5.8	7.6	5.0
WEST YELLOWSTONE PILLOW	6700	K/31	SP	6.0	5.8	4.3
WHISKEY CREEK	6800	K/27	38	9.0	11.5	7.1
WHISKEY CREEK PILLOW	6800	1/01	SP	7.7	9.6	7.3
WHITE MILL PILLOW	8700	1/01	SP	10.8	9.0	11.0
WILLOW CREEK	6500	K/29	19	4.1	4.4	3.8
WOOD CREEK PILLOW	5960	1/01	SP	2.2		5.3
ABOVE BURKE (ID)	4100	K/29	30	5.8	7.8	8.7
BIG SPRINGS (ID)	6500	K/30	38	9.3	11.7	8.0
CAMP CREEK (ID)	6580	K/27	24	4.4	9.0	4.4
HUMBOLDT GULCH (ID)	4250	K/29	23	3.6	6.0	-
HUMBOLDT GULCH PILLOW (ID)	4250	1/01	SP	4.4		-
ISLAND PARK (ID)	6290	K/30	35	7.9	10.8	6.4
ISLAND PARK PILLOW (ID)	6290	1/01	SP	7.5		-
KILGORE (ID)	6320	K/28	28	5.8	8.8	4.4
LOLO PASS (ID)	5230	K/29	35	8.0	8.8	12.1
LOLO PASS PILLOW (ID)	5230	1/01	SP	10.2	-	-
LOOKOUT (ID)	5250	K/30	49	11.2	16.8	14.4
MOOSE CREEK (ID)	6200	K/28	30	7.6	8.8	7.1
MOOSE CREEK PILLOW (ID)	6200	1/01	SP	8.3		-
MOSQUITO RIDGE PILLOW (ID)	5200	1/01	SP	12.9		-
SAVAGE PASS PILLOW (ID)	6170	1/01	SP	9.0	-	-
SAWTELL MOUNTAIN (ID)	8720	K/30	65	20.7	23.1	13.7
SUNSET PILLOW (ID)	5540	1/01	SP	12.3		-
TARGHEE PASS (ID)	6980	K/30	29	6.6	9.0	6.1
VALLEY VIEW (ID)	6680	K/30	30	6.9	10.1	6.2
WHITE ELEPHANT (ID)	7710	K/30	46	13.3	15.3	9.1
WHITE ELEPHANT PILLOW (ID)	7710	1/01	SP	13.7		-
BALD MOUNTAIN (WY)	9380	1/01	EST	10.7		10.1
BALD MOUNTAIN PILLOW (WY)	9380	1/01	SP	10.2	10.8	9.7
BEARTOOTH LAKE PILLOW (WY)	9270	1/01	SP	8.8	5.1	-
BURGESS R.S. (WY)	7880	1/01	EST	3.3		3.5
EAST ENTRANCE (WY)	6960	K/31	26	4.8	5.9	4.7
EVENING STAR PILLOW (WY)	9200	1/01	SP	13.1	6.9	-
LAKE CAMP (WY)	7780	K/30	23	4.0	3.3	3.8
LUPINE CREEK (WY)	7380	1/02	21	4.2	4.4	4.8
NORRIS BASIN (WY)	7500	K/31	24	4.1	4.7	5.1
OLD FAITHFUL (WY)	7400	K/30	30	6.4	7.7	7.2
PARKERS PEAK PILLOW (WY)	9400	1/01	SP	11.8		12.5
SYLVAN LAKE PILLOW (WY)	8420	1/01	SP	12.0	10.5	-
SYLVAN PASS (WY)	7100	K/31	29	5.2	6.0	6.1
THUMB OVIDE (WY)	7980	1/03	35	8.4	9.7	8.6
TOGWOTEE PASS (WY)	9580	1/04	55	16.5	13.2	13.6
TROUT CREEK PILLOW (WY)	8400	1/01	SP	3.1	2.6	-
TWO OCEAN PLATEAU PILLOW (WY)	9160	1/01	SP	14.8		-
WOLVERINE (WY)	7650	K/31	24	4.1	5.1	5.5
WOLVERINE PILLOW (WY)	7650	1/01	SP	4.3	5.1	5.5
YOUNTS PEAK PILLOW (WY)	9350	1/01	EST	8.5	6.9	8.2
FIDELITY MOUNTAIN (BC)	6130	K/31	54	13.8	13.1	23.3
GLACIER (BC)	4100	K/31	31	5.8	8.1	13.3
GRAY CREEK LOWER (BC)	5080	1/01	24	5.1	7.3	6.9
KICKING HORSE (BC)	5410	1/03	24	4.1	3.9	7.5

Columbia River Drainage

STREAMFLOW FORECASTS

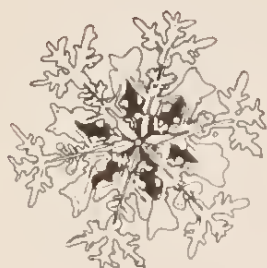
BASIN, STREAM and or FORECAST POINT	THIS YEAR		PAST RECORD		THIS YEAR		PAST RECORD		THIS YEAR		PAST RECORD	
	FORECAST		FORECAST		FORECAST		FORECAST		FORECAST		FORECAST	
	Thousand Acre Feet	Percent of Average	Thousand Acre Feet	Percent of Average	Thousand Acre Feet	Percent of Average	Thousand Acre Feet	Percent of Average	Thousand Acre Feet	Percent of Average	Thousand Acre Feet	Percent of Average
	April - September		April - July		April - June		April - July		April - June		April - July	
KOOTENAI RIVER below Libby Dam (1)	6,750	96	7,041	96	5,750	96	6,020		5,870	97	5,157	6,051
KOOTENAI RIVER at Leona (1)	8,350	97	8,602	97	7,260	97	7,498		6,100	78		782
BLACKFOOT RIVER near Bonner	790	79	999	78	705	78	904		520	87		597
CLARK FORK RIVER above Milltown (6)	710	87	816	88	620	88	708		1,130	82	880	1,379
CLARK FORK RIVER below Missoula	1,500	83	1,815	82	1,325	82	1,612		1,425	92		464
BITTERROOT RIVER near Darby	525	91	580	91	484	91	532		1,055	89		1,191
BITTERROOT RIVER at Missoula (9)	1,320	88	1,504	88	1,219	88	1,384		2,185	85		2,570
CLARK FORK RIVER below Missoula	2,820	85	3,319	85	2,544	85	2,996		3,320	97	2,437	3,428
CLARK FORK RIVER at St. Regis	3,760	96	3,933	97	3,400	97	3,504		1,150	78		1,471
NORTH FORK FLATHEAD RIVER near Columbia Falls	1,490	78	1,913	78	1,350	78	1,732		1,230	85	1,122	1,453
MIDDLE FORK FLATHEAD RIVER near West Glacier	1,570	84	1,545	84	1,440	84	1,401		1,610	85	1,416	1,886
SOUTH FORK FLATHEAD RIVER near Columbia Falls (10)	1,950	86	1,847	85	1,820	85	1,715		4,120	84	3,654	4,921
FLATHEAD RIVER at Columbia Falls (10)	5,130	83	4,943	83	4,750	83	4,508		4,810	84	4,420	5,759
FLATHEAD RIVER near Polson (11)	6,075	83	6,130	83	5,580	83	5,538		7,840	83	6,902	9,459
CLARK FORK RIVER near Plains (11)	10,100	83	9,880	83	9,180	83	8,748		12,351	82		10,570
CLARK FORK RIVER at Whitehorse Rapids (12)	11,100	82	13,575	82	10,100	82	12,351					

- (1) Adjusted for storage in Lake Kootenai.
- (2) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
- (3) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
- (4) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
- (5) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.
- (6) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
- (7) Adjusted for storage in Painted Rocks Reservoir.
- (8) Adjusted for diversion into Sunset Highline Canal.
- (9) Difference in observed flow Clark Fork above and below Missoula.
- (10) Adjusted for storage in Hungry Horse Reservoir.
- (11) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
- (12) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake and Noxon Rapids Reservoir.

ALL FORECASTS PREPARED IN COOPERATION
WITH THE NATIONAL WEATHER SERVICE

SUMMARY OF SNOW MEASUREMENTS (COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and or SUBWATERSHED	Number of Courses Measured	THIS YEAR'S SNOW WATER AS PERCENT OF	
		Last Year	Average
East Kootenay/BC.	4	88	56
Kootenai/Montana	19	70	64
Kootenai above Bonners Ferry...	23	72	63
Little Bitterroot	5	73	64
N. Fk. Flathead...	7	74	67
M. Fk. Flathead...	7	61	61
S. Fk. Flathead...	5	69	92
Swan	3	78	100
Flathead	27	70	74
Stillwater & Whitefish.....	3	76	65
Clark Fork above Blackfoot	32	69	71
Blackfoot	14	81	74
Upper Clark Fork above Missoula	46	72	72
Bitterroot	14	91	78
Lower Clark Fork below Missoula .	9	82	81
Clark Fork (Total w/o Flathead)...	69	80	76
Pend O'Reille (Clark Fork & Flathead)	96	76	75
Columbia (Pend O'Reille & Kootenai)	92	77	71



Snowfall pH

Snow surveyors in Montana will again be making snow pH measurements in conjunction with snow surveys. This will be the fourth year that pH measurements have been made.



LATE ARRIVING DATA

SNOW January 1984

DRAINAGE BASIN and or SNOW COURSE	Elevation	THIS YEAR		PAST RECORD	
		Date of Survey	Snow Depth (inches)	Water Content (inches)	Water Content (inches)
NAME				Last Year	Average
Badger Pass	6900	1/07	27	9.5A	13.5 20.8
Blue Lake	5900	1/07	16	5.5A	10.0 10.8
Holbrook	4530	1/07	8	2.5A	3.5 4.4
North Fork Jocko	6330	1/07	55	19.0	17.0 19.3
Spotted Bear Mountain	7000	1/07	20	5.3	7.0 7.1
Stuart Mountain	7400	1/07	47	15.2	13.0 13.2
Trinkus Lake	6100	1/07	53	18.8	18.0 18.2
TV Mountain	6800	1/07	31	9.2	7.4 7.9
Twin Creeks	3580	1/07	9	3.0A	5.5 5.7
Upper Holland Lake	6200	1/07	43	13.8	11.0 15.4

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH December 1983

Basin or Stream		RESERVOIR	1983 Capacity	1982 Storage	1981 Storage	Average
COLUMBIA						
Kootenai	Kootenai		5,748.2	3,619.0	3,645.0	---
Flathead	Hungry Horse		3,451.0	2,611.0	3,224.0	2,299.0
	Flathead Lake		1,791.0	1,096.0	1,284.0	1,325.0
	Camas (4)		45.2	28.1	29.0	16.8
	Mission Valley (8)		100.3	52.5	40.3	35.3
Clark Fork	Georgetown Lake		31.0	27.7	28.2	28.7
	Lower Willow Creek		4.9	---	1.3	1.2
	Nevada Creek		12.6	3.4	4.9	3.8
	Noxon Rapids		334.6	318.4	327.0	314.1
Bitterroot	Painted Rocks		31.7	---	---	---
	Como		34.9	18.5	11.2	8.5
MISSOURI						
Beaverhead	Lima		84.0	18.4	47.5	39.5
	Clark Canyon		257.2	183.5	172.2	145.4
Ruby	Ruby		38.8	26.5	22.3	21.4
Madison	Hebgen Lake		377.5	261.7	274.2	258.9
	Ennis Lake		41.0	31.0	30.4	33.4
Gallatin	Middle Creek		8.0	4.0	3.7	3.1
Missouri	Canyon Ferry		2,043.0	1,785.0	1,821.0	1,629.0
	Hauser & Helena		61.9	63.0	63.0	62.2
	Helena Valley		10.4	4.8	---	6.4
	Lake Helena		10.4	10.9	10.9	10.6
	Holter Lake		81.9	77.2	80.5	78.5
	Fort Peck Lake		18,910.0	16,250.0	16,040.0	16,310.0
Smith	Smith River		10.6	8.2	7.3	6.4
	Newlan Creek		12.4	8.8	8.9	9.4
Musselshell	Bair		7.0	2.2	5.0	4.0
	Martinsdale		23.1	13.0	17.4	10.7
	Deadman's Basin		72.2	51.0	64.8	43.2
Sun	Gibson		99.1	43.0	54.0	41.2
	Willow Creek		32.2	23.9	23.4	21.2
	Pishkun		32.0	19.8	20.5	17.2
Marias	Lower Two Medicine		11.9	---	---	---
	Four Horns		19.2	---	---	---
	Swift		30.0	9.8	11.7	13.0
	Lake Frances		111.9	47.1	85.7	70.7
Milk	Elwell (Tiber)		1,347.0	691.8	689.9	510.2
	Beaver Creek		3.5	3.1	3.0	1.6
	Fresno		127.2	27.0	15.5	61.3
	Nelson		66.8	42.0	48.7	40.0
HUDSON BAY						
St. Mary's	Lake Sherburne		64.3	26.5	31.4	18.3
YELLOWSTONE						
Stillwater	Mystic Lake		21.0	10.3	8.9	12.4
Clark's Fork	Cooney		27.4	16.1	15.0	12.6
Tongue	Tongue River		68.0	13.0	29.1	26.8
Bighorn	Bighorn Lake		1,356.0	913.6	985.0	667.7

AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES

Canada

- Department of the Environment
- Atmospheric Environment Service
- Water Management Service
- British Columbia Ministry of Environment
- Inventory and Engineering Branch, Hydrology Section
- Alberta Environment
- Technical Services Division

Federal

- Department of the Army - Corps of Engineers
- Department of Agriculture - Forest Service
- Soil Conservation Service
- Department of Commerce - National Environmental Satellite Service
- National Weather Service
- Department of Interior - Bureau of Indian Affairs
- Fish and Wildlife Service
- Geological Survey
- National Park Service
- Bureau of Reclamation
- Department of Energy - Bonneville Power Administration

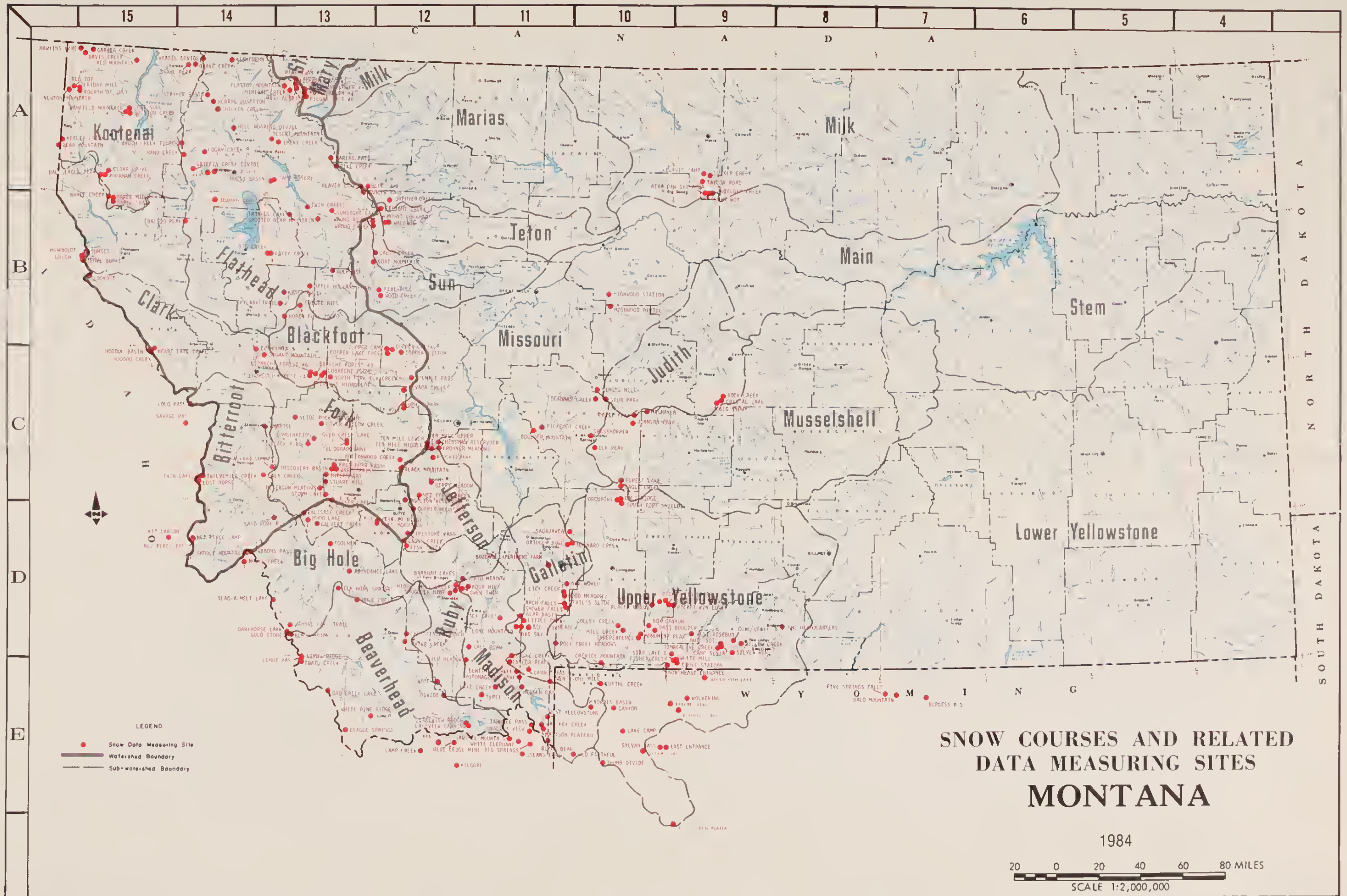
STATE AGENCIES

- Montana Conservation Districts
- Montana Department of Fish, Wildlife and Parks
- Montana Department of Natural Resources and Conservation
- Montana State University - Agricultural Experiment Station
- University of Montana - School of Forestry

PRIVATE ORGANIZATIONS

- The Anaconda Company
- Big Sky of Montana
- Butte Water Company
- Flathead Valley Community College
- Montana Power Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.



SNOW COURSES AND RELATED
DATA MEASURING SITES
MONTANA

1984

20 0 20 40 60 80 MILES
SCALE 1:2,000,000

Source:
Base map prepared by SCS, WISC Carto Unit from USGS 1:1,000,000 Nat. Atlas.
Thematic data compiled by state staff
U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE USDA SCS FORT WORTH, TEXAS 1983

INDEX TO MONTANA SNOW COURSES AND DATA SITES

Snow Course	Elev.	Sec.	Twp.	Range	Sensors In Addition to Snow Course ¹	Drainage Basin
Abundance Lake	8800	7	35	11W		Big Hole
Ambrase	6480	28	9N	18W		Bitterroot
Arch Falls	7350	3	5S	6E		Gallatin
Ashley Divide	4820	10	28N	23W	P	Flathead
Ashley Lake	4000	8	28N	23W	P	Flathead
*Badger Pass	6900	4	27N	11W	A,P,S,T	Teton-Marías-Sun
Bald Eagle Peak	5700	6	27N	31W		Kootenai
Bald Ridge	7500	11	4N	10E		Upper Yellowstone
Banfield Mountain	5600	4	32W	30W	S,P,T,W	Kootenai
Barre Creek	5500	36	26N	31W		Kootenai
Barre Midway	4600	31	26N	30W		Kootenai
Barre Trail	3800	5	25N	30W		Kootenai
*Barker Lakes	8250	17	4N	12W	S,P,I	Clark Fork
*Basin Creek	7180	31	1N	7W	S,P,T	Clark Fork
Bassoo Peak	5150	11	24N	25W		Flathead
*Beagle Springs	8850	6	16S	11W	S,P,I	Beaverhead
Bear Basin	8150	9	6S	3E		Gallatin
Bear Paw Ski Area	5200	21	28N	16E	P	Milk
Beaver Lake	5900	31	28N	11W		Flathead
Berry Meadow	7000	8	5N	5W		Jefferson
Big Creek	6750	7	22N	18W		Flathead
Big Sly	7700	30	6S	3E	P	Gallatin
Big Sky Meadow	6350	35	6S	3E		Gallatin
Big Snowy	7150	25	12N	17E		Judith
*Black Bear	7950	27	15S	5E	S,P,T	Madison
Black Mountain	7250	34	7N	8W		Clark Fork
*Black Pine	7100	26	8N	15W	S,P,T	Clark Fork
*Bloody Dick	7600	12	8S	16W	S,P,T	Beaverhead
Blue Lake	5900	25	28N	11W	A	Teton-Marías-Sun
Bots Sots	7750	35	7S	18E		Upper Yellowstone
*Boulder Mountain	7950	1	9N	3E	S,P,T	Missouri Main Stem
*Box Canyon	6670	28	6S	12E	S,P,T	Upper Yellowstone
Boulder Creek	5300	24	28N	16E	P	Milk
*Bozeman Experiment Farm	4775	7	2S	5E	S,P,T,NSC	Gallatin
Branham Lakes	8850	5	4S	3W		Ruby
Bridge Bowl	7250	25	1N	6E	S,P	Gallatin
Bristol Creek	3900	2	32N	30W		Kootenai
Brush Creek Timber	5000	12	30N	26W		Kootenai
Bull Mountain	6600	18	2N	9W		Big Hole
Cabin Creek	5200	34	23N	10W		Teton-Marías-Sun
Caill Road	8050	21	8S	2W		Madison
*Calvert Creek	5430	34	2N	14W	S,P,T	Big Hole
Camp Misery	5400	30	28N	18W		Flathead
Camp Senia	7890	2	8S	18E		Upper Yellowstone
*Carrot Basin	9000	18	10S	4E	S,P,T	Gallatin
Carter Creek	7400	22	8S	7W		Beaverhead
*Cashe Creek	7800	8	9S	3E	S,P,T	Gallatin
Cedar Grove	3760	35	28N	31W		Kootenai
Chessman Reservoir	6200	2	8N	5W		Missouri Main Stem
Chicken Creek	4060	14	33N	23W		Flathead
Christensen Ranch	6000	34	7S	7W	P,NSC	Beaverhead
*Clover Meadow	8600	28	9S	2W	S,P,T	Ruby
*Cole Creek	7850	26	7S	19E	S,P,T	Upper Yellowstone
Colley Creek	6300	34	6S	10E	P	Upper Yellowstone
*Combination	5600	7	8N	14W	S,P,I	Clark Fork
Cooke Station	8150	19	9S	15E		Upper Yellowstone
*Copper Bottom	5200	15	15N	8W	S,P,T	Clark Fork
*Copper Camp	6950	3	15N	9W	S,P,T	Clark Fork
Copper Creek	5700	1	15N	9W		Clark Fork
Copper Lake Creek	6100	3	15N	9W		Clark Fork
Copper Mountain	7700	13	3N	7W		Jefferson
Cottonwood Creek	6400	14	7N	8W		Clark Fork
Coyote Hill	4200	12	18N	16W		Clark Fork
Crevice Mountain	8400	22	9S	9E		Upper Yellowstone
*Crystal Lake	6050	19	12N	18E	S,P,I	Judith
Dad Creek Lake	8400	24	12S	13W		Beaverhead
Daisy Peak	7600	34	11N	11E	P	Musselshell
*Daly Creek	5780	16	5N	18W	S,P,T	Bitterroot
*Darkhorse Lake	8600	4	8S	16W	S,P,I	Big Hole
Davis Creek	5400	20	37N	33W		Kootenai
*Deadman Creek	6450	23	12N	8E	S,P,T	Missouri Main Stem
Desert Mountain	5600	10	31N	18W		Flathead
Devil's Slide	8100	14	5S	6E		Gallatin
Discovery Basin	7050	21	6N	13W		Clark Fork
*Divide	7800	14	12S	4W	S,P,T	Ruby
Dix Hill	6400	24	11N	8W	P	Clark Fork
*Dunoyer Creek	5750	27	27N	9W	S,P,T,W	Missouri Main Stem
Engle Creek	7000	2	5N	10E		Musselshell
East Boulder S	9250	14	7S	12E	A	Gallatin
East Fork P. S	5400	16	2N	17W		Bitterroot
El Dorado Mine	7800	23	8N	12W		Clark Fork
El Horn Springs	7800	21	4S	12W		Beaverhead
Elk Peak	8000	10	8N	8E		Missouri Main Stem
*Emery Creek	4350	20	31N	18W	S,P,T	Flathead
Fatty Creek	5500	8	22N	18W		Flathead
Fish Creek	8000	5	1S	7W		Jefferson
*Fisher Creek	9100	11	9S	14E	S,P,T	Upper Yellowstone
Five-Bull	5700	25	20N	10W		Teton-Marías-Sun
*Flattop Mountain	6300	12	35N	18W	S,P,T	Flathead
Fleecer Ridge	7500	3	1N	10W		Big Hole
Foolhen	8280	11	1S	13W		Big Hole
Forest Lake	6400	26	6N	10E		Musselshell
Four Mile	6900	5	4S	2W	P	Madison
Fourth of July	3450	19	34N	33W		Kootenai
Fred Burr Pass	8000	12	6N	13W		Clark Fork
Freight Creek	6000	13	26N	10W		Teton-Marías-Sun
Friday Hill	4620	19	34N	33W		Kootenai
*Frohner Meadows	6480	23	8N	5W	S,P,T	Missouri Main Stem
Garver Creek	4250	18	37N	32W	S,P,I,W	Kootenai

Snow Course	Elev.	Sec.	Twp.	Range	Sensors In Addition to Snow Course ¹	Drainage Basin
Gibbons Pass	7100	3	2S	19W		Bitterroot
Goat Mountain	7000	20	22N	10W		Teton-Marías-Sun
Gold Creek Lake	7200	14	8N	12W		Clark Fork
Goathead	8100	11	8S	16W		Beaverhead
Grasshopper	7000	19	9N	8E		Missouri Main Stem
*Grave Creek	4300	1	16N	25W	S,P,I	Kootenai
Griffin Creek Divide	5150	11	28N	25W		Flathead
Gunsight Lake	6300	30	26N	13W		Flathead
*Hand Creek	5035	6	29N	25W	S,P,T	Flathead
Hawkins Lake	6450	18	17N	13W	S,P,I,W	Kootenai
Haymaker	8050	16	11N	12E		Musselshell
Heart Lake Trail	4800	11	14N	27W		Clark Fork
Hebgen Dam	8550	22	11S	3E		Madison
Hell Roaring Divide	5770	35	32N	22W		Flathead
Herrig Junction	4850	19	34N	23W	P	Flathead
Highwood Divide	5650	16	19N	9E	P,NSC	Missouri Main Stem
Highwood Station	4600	20	20N	9E	P,NSC	Missouri Main Stem
Holbrook	4530	18	21N	13W	A	Flathead
Hood Meadow	6600	22	4S	6E		Gallatin
*Hoodoo Basin	6050	17	14N	27W	S,P,T	Clark Fork
Hoodoo Creek	5900	16	14N	27W		Clark Fork
Iceberg Lake #3	5600	1	35N	14W		St. Mary
Independence	7850	21	7S	12E		Upper Yellowstone
Intergaard	6450	6	5N	13W		Clark Fork
Jack Creek	6650	1	6S	1E		Madison
Jahne Lake Trail	7200	24	7S	16W		Big Hole
Johnson Park	6450	16	10N	11E	P	Musselshell
Josephine Lower #9	4900	22	35N	16W		St. Mary
Keeler Creek	3300	25	30N	35W		Kootenai
King's Hill	7500	34	13N	8E		Missouri Main Stem
Kishenehn	3890	14	37N	22W		Flathead
Kiwatis Camp	3720	9	29N	16E	P,T,W	Mill
*Kraft Creek	4750	4	19N	17W	S,P,T	Flathead
lake Creek	6100	27	11S	1E		Madison
lakeview Canyon	6930	26	14S	2W		Beaverhead
*Lakeview Ridge	7400	27	14S	2W	S,P,T	Beaverhead
Lemhi Pass	7400	9	10S	15W		Beaverhead
*Leahy Ridge	6100	4	10S	15W	S,P,T	Gallatin
*Lick Creek	6860	10	4S	6E	S,P,T	Gallatin
Little Park	7400	22	6S	3E		Gallatin
Logan Creek	4300	34	30N	24W		Flathead
Long Mountain	8880	25	6S	2E		Gallatin
Lost Horse	5940	5	4N	23W		Bitterroot
Lost Soul	4800	31	33N	29W		Kootenai
*Lower Twin	7900	12	4S	3W	S,P,I	Madison
Lower Willow Creek	4740	3	9N	14W	P,NSC	Clark Fork
*Lubrecht Flume	4680	13	13N	14W	S,P,I	Clark Fork
Lubrecht Forest #3	5450	19	13N	14W		Clark Fork
Lubrecht Forest #4	4650	23	13N	15W		Clark Fork
Lubrecht Forest #6	4040	11	13N	15W		Clark Fork
Lubrecht Hydroplot	4200	22	13N	14W		Clark Fork
Madison Plateau	7750	28	14S	5E	S,P	Madison
*Many Glacier	4900	10	35N	17W	S,P,T	St. Mary
Marías Pass	5250	11	30N	13W		Teton-Marías-Sun
Maynard Creek	6210	19	1N	7E	S,P	Gallatin
Middle Mill Creek	7850	17	4S	3W		Ruby
Mill Creek	7500	31	6S	11E	P	Upper Yellowstone
Mineral Creek	4000	34	35W	17W		Flathead
*Monument Peak	8850	16	7S	12E	S,P,T	Upper Yellowstone
Moulton Reservoir	6850	17	4N	7W		Clark Fork
Mount Allen #7	5700	27	35N	16W		St. Mary
*Mount Lochart	6400	18	25N	9W	S,P,T	Teton-Marías-Sun
Mudd Lake	7650	24	2N	15W		Big Hole
*Mule Creek	8300	9	5S	11W	S,P,T	Big Hole
*Nevada Creek	6480	6	12N	7W	S,P,I	Clark Fork
New World	6900	24	3S	6E		Gallatin
Newton Mountain	5600	23	34W	3W		Kootenai
Nez Perce Camp	5650	19	1S	23W	S,P,I	Bitterroot
Nez Perce Creek	6500	16	4N	6W		Jefferson
Nez Perce Pass	6570	25	1S	24W		Bitterroot
*Noisy Basin	6040	25	28N	19W	S,P,T	Flathead
*North Fork Elk Creek	6250	20	13N	13W	S,P,T	Clark Fork
North Fork Jocku	6330	3	17N	17W		Flathead
North Meadow	7500	24	3S	3W		Madison
*Northeast Entrance	7350	33	9S	14E	S,P,T	Upper Yellowstone
Notch	8500	18	11S	4W		Ruby
Ophir Park	7150	13	11N	8W		Clark Fork
Palisade Creek	8250	3	2N	15W		Big Hole
Peterson Meadows	7200	2	4N	14W	S,P	Clark Fork
Picket Pin 0	9450	36	4S	13E	A	Upper Yellowstone
Picket Pin Lower	6200	1	5S	14E	P	Upper Yellowstone
Picket Pin Middle	7250	3	5S	14E		Upper Yellowstone
Picket Pin Upper	8100	32	4S	14E	P	Upper Yellowstone
*Pickfoot Creek	6650	31	10N	4E	S,P,I	Missouri Main Stem
Piegan Pass #6	5500	27	35N	16W		St. Mary
*Pike Creek	5930	5	29N	13W	S,P,T	Teton-Marías-Sun
Pipestone Pass	7200	10	1N	7W		Jefferson
*Placer Basin	8830	11	5S	13E	A,S,P,T	Upper Yellowstone
PMC Headquarters	3656	34	6S	23E	P,W,T,NSC	Upper Yellowstone
Pooman Creek	5100	5	27N	31W	S,P,I,W	Kootenai
*Porcupine	6500	10	4N	10E	S,P,I	Upper Yellowstone
Potomaceton Park	7150	33	10S	3E		Madison
Platymon #8	5800	36	36N	17W		St. Mary
Red Mountain	6000	4	36N	29W		Kootenai
Red Top	5260	14	34N	34W		Kootenai
Rock Creek	5600	7	12N	18E	P	Judith
Rock Creek Meadows	8160	34	7S	5E	P	Gallatin
*Rocker Peak	8000	17	7N	5W	S,P,I	Jefferson
Rocky Boy	4700	22	28N	16E	S,P	Milk
Sacajawes	6550	36	2N	6E		Upper Yellowstone

Snow Course	Elev.	Sec.	Twp.	Range	Sensors In Addition to Snow Course ¹	Drainage Basin
*Saddle Mountain	7940	5	2S	19W	S,P,T	Bitterroot
Sentinel Creek	8300	17	10S	3E		Madison
*Shower Falls	8100	14	5S	6E	S,P,T	Gallatin
*Silver Run	6630	11	8S	19E	S,P,I	Upper Yellowstone
*Shaliho Summit	7250	30	6N	17W	S,P,T	Clark Fork
*Sylark Trail	6200	29	19N	17W	S,P,I	Flathead
Slag-A-Mell Lake	8750	28	5S	17W		Big Hole
Slide Rock Mountain	7100	35	10N	16W		Clark Fork
Snuggler Mine	6960	24	4S	4W		Ruby
*South Fork Shields	8100	13	4N	10E	S,P,T	Upper Yellowstone
Spotted Bear Mountain	7000	23	25N	15W	A	Flathead
*Spur Park	8100	20	12N	9E	S,P,I	Judith
*Stahl Peak	6030	5	36N	25W	S,P,I	Kootenai
Star Lake F	9650	31	8S	15E	A	Upper Yellowstone
Stemple Pass	6600	16	13N	7W		Missouri Main Stem
Strom Lake	7380	19	4N	13W		Clark Fork
Stryker Basin	6180	26	34N	24W	P	Flathead
Stuart Mill	6500	19	5N	13W		Clark Fork
Stuart Mountain	7400	6	14N	18W		Clark Fork
Sucker Creek	3960	11	29N	16E	P	Milk
Taylor Peaks	8500	26	9S	2E	S,P	Gallatin
Taylor Road	4080	19	25N	16E	P	Milk
Ten Mile Lower	6600	12	6N	6W		Missouri Main Stem
Ten Mile Middle	6800	13	6N	6W		Missouri Main Stem
Ten Mile Upper	8000	19	8N	5W		Missouri Main Stem
*Teepee Creek	8000	15	12S	1W	S,P,I	Madison
Timberline Creek	8850	10	8S	18E		Upper Yellowstone
Trail Creek	7090	15	10S	15W		Beaverhead
Trinkus Lake	6100	9	25N	17W		Flathead
Truman Creek	4060	10	26N	22W		Flathead
TV Mountain	6800	33	15N	19W		Clark Fork
*Twelvemile Creek	5600	34	5N	23W	S,P,T	Bitterroot
*Twenty-One Mile	7150	1	11S	5E		Gallatin
Twin Creeks	3580	25	26N	16W	A	Flathead
*Twin Lakes	6510	32	5N	23W	S,P,I	Bitterroot
Upper Holland Lake	6200	28	20N	15W		Flathead
*Madison	5600	17	25N	9W	S,P,T	Teton-Marias-Sun
*Warm Springs	7800	13	6N	13W	S,P,I	Clark Fork
Weasel Divide	5450	20	37N	24W		Kootenai
West Rosebud	7500	9	7S	16E		Upper Yellowstone
West Yellowstone	6700	34	13S	5E	S	Madison
*Whiskey Creek	6800	19	14S	5E	S,P,T	Madison
*White Mill	8700	18	9S	15E	S,P,I	Upper Yellowstone
White Pine Ridge	6850	18	14S	9W		Beaverhead
Willow Creek	6500	31	7S	20E		Upper Yellowstone
*Wood Creek	5960	36	20N	10W	S,P,T	Teton-Marias-Sun
Wrong Creek	5700	32	25N	10W		Teton-Marias-Sun
Wrong Ridge	6800	17	25N	10W		Teton-Marias-Sun
IDAHO						
Above Burke	4100	11	48N	5E		Spokane
*Bear Mountain	5400	9	57N	3E	S,P,T	Pend Oreille
Big Springs	6400	4	13N	44E		SNAKE
Blind Ledge Mine	6700	27	13N	38E		SNAKE
Camp Creek	6800	21	13N	36E		SNAKE
*Crab Creek	6200	6	12N	39E	S,P,I	SNAKE
*Humboldt Gulch	4250	2	48N	5E	S,P,I	Coeur d'Alene
Island Park	6290	28	13N	43E		SNAKE
Killgore	6200	6	12N	39E		SNAKE
Kit Carson	5020	4	27N	16E		Clearwater
*Lolo Pass	5240	16	38N	15E	S,P,T	Clearwater
*Lookout	5120	4	47N	6E	S,P,T	Spokane
*Moose Creek	6200	14	27N	21E	S,P,T	Salmon
*Savage Pass	6170	18	36N	15E	S,P,T	Clearwater
Sawtell Mountain	8720	7	14N	43E		SNAKE
*Sunset	5600	33	49N	5E	A,S,P,T	Spokane
Yarghee Pass	7000	32	16N	44E		SNAKE
Valley View	6740	7	15N	44E		SNAKE
*White Elephant	7700	17	14N	43E	S,P,T	SNAKE
WYOMING						
*Bald Mountain	9380	29	56N	91W	S,P,T	Big Horn
*Beartooth Lake	9275	--	---	---	S,P,T	Upper Yellowstone
*Burgess R S	7880	36	56N	89W	S,P,T	Longue
*Canyon	7940	--	---	---	S,P,T	Upper Yellowstone
East Entrance	6960	17	52N	109W		Big Horn
*Evening Star	9200	20	54N	107W	S,P,T	Upper Yellowstone
Fine Springs Falls	7620	20	56N	92W		Big Horn
Lake Camp	7780	--	---	---		Upper Yellowstone
Lupine Creek	7380	--	---	---		Upper Yellowstone
Norris Basin	7500	--	---	---		Madison
Old Faithful	7800	27	52N	116W		Madison
*Parker's Peak	9400	19	55N	108W	S,P,T	Upper Yellowstone
*Sylvan Lake	8420	--	---	---	S,P,T	Upper Yellowstone
Sylvan Pass	7100	--	---	---		Upper Yellowstone
Thumb Divide	7980	--	---	---		Upper Yellowstone
*Two Ocean Plateau	9160	6	48N	111W	S,P,T	SNAKE
*Wolverine	7650	29	55N	106W	S,P,T	Upper Yellowstone